

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for improving data processing in connection with a database having restrictions therein, said method comprising:

defining a dimension comprising a plurality of attributes;

assigning each attribute to a respective column of said database having restrictions therein ~~on each attribute~~;

defining relationships between said attributes of the defined dimension, ~~wherein~~ said defined relationships ~~[[are]]~~ not being subject to said ~~attribute~~ restrictions ~~placed on~~ of said database, said defined relationships establishing a first hierarchy of the attributes with respect to the defined dimension;

defining new relationships between said attributes of the defined dimension, said new defined relationships establishing a second hierarchy of the attributes with respect to the defined dimension ~~wherein~~:

said new relationships ~~[[are]]~~ not being subject to ~~attribute~~ said restrictions ~~placed on~~ of the database; and

said new relationships of the second hierarchy ~~modify~~ modifying at least one relationship of the first hierarchy between said attributes; and

accessing said database via at least one of the first hierarchy and the second hierarchy of said dimension.

2. (Canceled)

3. (Previously Presented) A method in accordance with claim 1, further comprising:

defining at least one hierarchy comprising a sequence of said attributes, at least one of said attributes included in said defining relationships step.

4. (Original) A method in accordance with claim 3, wherein each hierarchy defines a drill down path for accessing said database.
5. (Original) A method in accordance with claim 3, wherein a hierarchy contains one attribute.
6. (Original) A method in accordance with claim 3, wherein said act of defining said at least one hierarchy is independent of said database.
7. (Canceled)
8. (Original) A method in accordance with claim 1, wherein said database is a relational database.
9. (Original) A method in accordance with claim 1, wherein said dimension is utilized with an on line analysis processing (OLAP) system.
10. (Canceled)

11. (Currently Amended) A computer-readable storage medium having computer-executable instructions for improving data processing in connection with a database having restrictions therein, by performing acts comprising:

defining a dimension comprising a plurality of attributes;

assigning each attribute to a respective column of said database having restrictions ~~on~~ ~~each attribute~~ therein;

defining relationships between said attributes of the defined dimension, ~~wherein~~ said defined relationships ~~[[are]]~~ not being subject to said ~~attribute~~ restrictions ~~placed on~~ of said database, said defined relationships establishing a first hierarchy of the attributes with respect to the defined dimension;

defining new relationships between said attributes of the defined dimension, said new defined relationships establishing a second hierarchy of the attributes with respect to the defined dimension ~~wherein~~:

said new relationships ~~[[are]]~~ not being subject to ~~attribute~~ said restrictions ~~placed on~~ of the database; and

said new relationships of the second hierarchy ~~modify~~ modifying at least one relationship of the first hierarchy between said attributes; and

accessing said database via at least one of the first and second hierarchies of said dimension.

12. (Canceled)

13. (Currently Amended) A computer-readable storage medium in accordance with claim 11, further having computer-executable instructions for defining at least one hierarchy

comprising a sequence of attributes, at least one of said attributes included in said defining relationships step.

14. (Currently Amended) A computer-readable storage medium in accordance with claim 13, wherein each hierarchy defines a drill down path for accessing said database.

15. (Currently Amended) A computer-readable storage medium in accordance with claim 13, wherein a hierarchy contains one attribute.

16. (Currently Amended) A computer-readable storage medium in accordance with claim 13, wherein said act of defining said at least one hierarchy is independent of said database.

17. (Canceled)

18. (Currently Amended) A computer-readable storage medium in accordance with claim 11, wherein said database is a relational database.

19. (Currently Amended) A computer-readable storage medium in accordance with claim 11, wherein said dimension is utilized with an on line analysis processing (OLAP) system.

20. (Currently Amended) A system for accessing a database having restrictions therein, said system comprising:

a processor coupled to a storage device, said storage device comprising said database;

a first definition component for defining a dimension comprising a plurality of attributes;

an assignment component for assigning each attribute to a respective column of said database;

defining relationships between said attributes of the defined dimension, ~~wherein~~ said ~~defined~~ relationships ~~[[are]]~~ not ~~being~~ subject to said ~~attribute~~ restrictions ~~placed on~~ of said database, said defined relationships establishing a first hierarchy of the attributes with respect to the defined dimension, said second component defining new relationships between said attributes of the defined dimension, said new defined relationships establishing a second hierarchy of the attributes with respect to the defined dimension ~~wherein~~:

said new relationships ~~[[are]]~~ not ~~being~~ subject to ~~attribute~~ said restrictions ~~placed on~~ of the database; and

said new relationships of the second hierarchy ~~modify~~ modifying at least one relationship of the first hierarchy between said attributes; and

an access component for allowing access to said database via at least one of the first and second hierarchies of said dimension.

21. (Previously Presented) A system in accordance with claim 20, further comprising:

a third definition component for defining at least one hierarchy within each dimension, each hierarchy comprising a sequence of attributes, at least one of said attributes included in a relationship defined by said second definition component.

22. (Original) A system in accordance with claim 21, wherein each hierarchy defines a drill down path for said access component.

23. (Original) A system in accordance with claim 21, wherein a hierarchy contains one attribute.

24. (Original) A system in accordance with claim 21, wherein said third definition component defines said at least one hierarchy independent of said database.

25. (Canceled)

26. (Original) A system in accordance with claim 20, wherein said system is utilized with an on line analysis processing (OLAP) system.

27. (Currently Amended) A system for accessing a database having restrictions therein, said system comprising:

means for defining a dimension comprising a plurality of attributes;

means for assigning each attribute to a respective column of said database having restrictions therein;

means for defining relationships between said attributes of the defined dimension, wherein said defined relationships are not subject to said ~~attribute~~ restrictions ~~placed on~~ of said database, said defined relationships establishing a first hierarchy of the attributes with respect to the defined dimension;

means for defining new relationships between said attributes of the defined dimension, said new defined relationships establishing a second hierarchy of the attributes with respect to the defined dimension, wherein:

said new relationships are not subject to ~~attribute said~~ restrictions ~~placed on~~
~~the original of the~~ database; and

said new relationships of the second hierarchy modify at least one relationship
of the first hierarchy between said attributes; and;

means for accessing said database via at least one of the first hierarchy and the second
hierarchy of said dimension; ~~and~~

~~means for defining at least one hierarchy comprising a sequence of said attributes.~~

28. (Canceled)

29. (Original) A system in accordance with claim 27, wherein ~~said~~ at least one of the first
hierarchy and the second hierarchy is defined independent of said database.

30. (Original) A system in accordance with claim 27, wherein said system is an on line
analysis processing (OLAP) system.

31. (Original) A system in accordance with claim 27, wherein said means for defining a
dimension, means for assigning, means for defining relationships, means for accessing and
means for defining at least one hierarchy comprise at least one application programming
interface (API).

32. (Previously Presented) A computer-readable storage medium in accordance with
claim 11 comprising a data structure comprising:

the dimension comprising the plurality of attributes, wherein each attribute is bound to a column in a database; and

a logical structure indicative of relationships between said plurality of attributes, wherein said relationships are not subject to said restrictions placed on said database.

33. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 32, said data structure further comprising at least one hierarchy comprising a sequence of attributes, at least one of said attributes included in said defining relationships step.

34. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 33, wherein each hierarchy provides a drill down path for accessing said database.

35. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 33, wherein a hierarchy contains a single attribute.

36. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 33, wherein each sequence is defined independent of said restrictions associated with said database.

37. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 32, wherein said logical structure is defined independent of said restrictions associated with said database.

38. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 32, wherein said database is a relational database.

39. (Currently Amended) A ~~data structure~~ computer-readable storage medium in accordance with claim 32, wherein said database is capable of being utilized with an online analytical processing (OLAP) system.

40. (Currently Amended) A method for retrieving data from a database having restrictions therein, said method comprising:

receiving a data retrieval request including a dimension, wherein:

said dimension includes a plurality of attributes;

each attribute is assigned to a respective column of said database;

at least one relationship between said attributes of the defined dimension is defined, ~~wherein~~:

said at least one defined relationship ~~[[is]]~~ not being subject to said ~~attribute~~ restrictions ~~placed on~~ of said database, said defined relationships establishing a first hierarchy of the attributes with respect to the defined dimension;

new relationships are defined between said attributes of the defined dimension, said new defined relationships establishing a second hierarchy of the attributes with respect to the defined dimension; ~~[[and]]~~

said new relationships ~~[[are]]~~ not being subject to ~~attribute~~ said restrictions ~~placed on~~ of the ~~original~~ database; and

said new relationships of the second hierarchy ~~modify~~ modifying at least one relationship of the first hierarchy between said attributes; and

retrieving said data from said database via at least one of the first and second hierarchies of said dimension.

41. (Original) A method in accordance with claim 40, further comprising:

providing said retrieved data in response to said data retrieval request.
42. (Previously Presented) A method in accordance with claim 40, said data retrieval request further including at least hierarchy comprising a sequence of said attributes, where at least one of said attributes is included in the said at least one defined relationship.
43. (Original) A method in accordance with claim 42, wherein each hierarchy provides a drill down path for accessing said database.
44. (Original) A method in accordance with claim 42, wherein a hierarchy contains a single attribute.
45. (Previously Presented) A method in accordance with claim 42, wherein each sequence is defined independent of said restrictions associated with said database.
46. (Previously Presented) A method in accordance with claim 40, wherein said relationships between said attributes are defined independent of said restrictions associated with said database.

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47. (Original) A method in accordance with claim 40, wherein said database is a relational database.

48. (Original) A method in accordance with claim 40, wherein said database is capable of being utilized with an online analytical processing (OLAP) system.